Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

St. Francisville Mill
Tembec USA, LLC
St. Francisville, West Feliciana Parish, Louisiana
Agency Interest Number: 2073
Activity Number: PER20050001
Draft Permit 3160-00001-V3

I. APPLICANT:

Company:
Tembec USA, LLC
2105 Hwy 964, St. Francisville, LA 70775

Facility:
St. Francisville Mill
2105 Hwy 964, St. Francisville, West Feliciana Parish, Louisiana
Approximate UTM coordinates are 661.05 kilometers East and 3398.43 kilometers North, Zone 15

II. FACILITY AND CURRENT PERMIT STATUS:

St. Francisville Mill, an existing pulp and paper manufacturing facility, began operation in 1959. The St. Francisville Mill currently operates under Permit No. 3160-00001-V2, issued March 23, 2006, and Permit No. PSD-LA-540(M-3), issued November 30, 2003.

III. PROPOSED PERMIT / PROJECT INFORMATION:

Proposed Permit

A permit application and Emission Inventory Questionnaire were submitted by Tembec USA, LLC on October 5, 2005, requesting a Part 70 operating permit renewal. An updated application that completely replaced the previous submittal was submitted on August 11, 2006. Additional information was submitted on September 22, 2006, and October 6, 2006.

With this modification, St. Francisville Mill proposes to:

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- Renew the Part 70 permit
- Incorporate new Insignificant Activities
- Make other minor changes
- Incorporate seven new existing, yet previously unpermitted, emission point sources

Project Description

Tembec's St. Francisville Mill specializes in the production of high quality printing papers, coffee filter stock, and other specialty grades of industrial and consumer paper products. The facility is primarily a kraft pulping mill which comprises two wood pulping processes and four paper machines.

In the kraft pulping process, wood chips are cooked under pressure in the presence of cooking liquor. Cooking liquor, or white liquor, is an aqueous solution of sodium sulfide and sodium hydroxide. The lignin that binds the cellulose fibers together is dissolved during the cooking. When the cooking is completed, the majority of the liquor is drained to the recovery while the pulp enters its initial washing stage. Unreacted chunks of wood are removed while the pulp is washed. The washed pulp, or brown stock, is then bleached with oxidizers including chlorine dioxide, oxygen, and peroxide in the bleach plant. The bleached pulp is then sent to the paper machines.

Pulp is also produced in the pressurized ground wood area. Logs are brought to the mill and sent to pressurized grinders. The fine wood grindings (pulp) are washed in centrifuges and deckers, and then whitened with peroxide.

Pulps from the above processes are blended and fed to four paper machines. Clay coated paper for magazine printing is produced in the No. 1 and No. 2 Paper Machines. The No. 3 and No. 4 Paper Machines produce specialized papers, such as cup stock, coffee filter paper, and medical interwrap using pulp from the kraft pulping process.

To complete the chemical cycle in the kraft mill, the drained chip cooking liquor, or black liquor, is recovered, concentrated, and burned in the non-direct contact evaporator (NDCE) recovery furnace. The residue or smelt from the furnace is dissolved in weak wash to form green liquor. Calcium oxide or quick lime is added to the green liquor to produce white liquor which goes back into the chip cooking process in the Kraft Mill.

In order to comply with the emission limits established in PSD-LA-540(M-3), the St. Francisville Mill will limit the maximum permitted production rate of the Recovery Area to 3.0 MM lbs of black liquor solids per day and the average permitted production rate to 2.8 MM lbs of black liquor solids per day.

Section 6 of the Permit Application, dated August 11, 2006, lists the permitted emission rate before and after the project (in tons per year) for each emission

point in the permit. These changes are summarized in the Permitted Air Emissions Section.

Permitted Air Emissions

Estimated changes in permitted emissions in tons per year are as follows:

Pollutant	Before	After	Change
PM_{10}	232.65	234.62	+ 1.97
SO_2	193.66	196.92	+ 3.26
NO_X	1155.91	798.00	- 357.91
CO	1810.76	1691.66	- 119.10
VOC	645.65	681.53	+ 35.88

Prevention of Significant Deterioration Applicability

The pollutants are not being increased by significant amounts by the project. Therefore, the proposed facility is not subject to the requirements of the PSD program.

This application was reviewed for compliance with the Louisiana Part 70 operating permit program, Louisiana Air Quality Regulations, NSPS, and NESHAP regulations.

MACT Requirements

St. Francisville Mill is a major source for toxic air pollutants and must address maximum achievable control technology (MACT) pursuant to the requirements of LAC 33:III.Chapter 51. Acetaldehyde (Class II), ammonia (Class III), biphenyl (Class II), hydrochloric acid (Class III), methanol (Class III), phenol (Class II), and styrene (Class II) are emitted in amounts in excess of the major source threshold. Acetaldehyde (Class II), acrolein (Class II), ammonia (Class III), benzene (Class I), biphenyl (Class II), chlorine dioxide (Class II), chlorine (Class III), chlorobenzene (Class II), chloroform (Class II), dichloromethane (Class II), formaldehyde (Class I), hydrochloric acid (Class III), hydrogen sulfide (Class III), methanol (Class III), naphthalene (Class II), phenol (Class II), polynuclear aromatic hydrocarbons (Class II), propionaldehyde (Class III), sulfuric acid (Class III), and zinc (and compounds) (Class III) are emitted in amounts that exceed their respective Minimum Emission Rates (MER). MACT must be addressed for these pollutants.

The facility complies with the ambient air standards (AAS). Compliance with 40 CFR 63 Subpart S – Pulp and Paper Industry and 40 CFR 63 Subpart MM – Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills is determined as MACT. The Power Boilers (EQT 83, EQT 84, and EQT 85) are subject to 40 CFR 63 Subpart DDDDD – Industrial,

Commercial, and Institutional Boilers and Process Heaters, but are only subject to the initial notification requirements of 40 CFR 63.9(b). This requirement was satisfied on March 9, 2005.

Air Modeling Analysis

Dispersion Model Used: ISCST3 (Screen)

Pollutant	Time Period	Calculated Maximum Ground Level Concentration	Louisiana Air Quality Standard or National Ambient Air Quality Standard (NAAQS)
Biphenyl	8-Hour Average	30.4	31

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to Section VIII of the draft Part 70 permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to Section IX of the draft Part 70 permit.

Regulatory Analysis

The applicability of the appropriate regulations is straightforward and provided in the Facility Specific Requirements Section of the draft permit, or where provided, Tables 2, 3 and 4 of the draft permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are provided in the Facility Specific Requirements Section of the draft permit, or where provided, Tables 2, 3 and 4 of the draft permit.

IV. Permit Shields

There is no permit shield.

V. Periodic Monitoring

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Compliance Assurance Monitoring

Federal regulation 40 CFR 64-Compliance Assurance Monitoring is applicable to this facility. Applicability for each pollutant requires that the unit be subject to an emission limitation or standard and must use an active control device to achieve compliance. The following emission sources with pollution control equipment have a pre-control emission rate of a pollutant over 100 tons per year and were determined to require a CAM Plan: four (4) South Coating Plant Starch Silos (EQT 49-52), the Reburned Lime Silo (EQT 63), the Fresh Lime Silo (EQT 64), and the Pet Coke Silo Baghouse (EQT 88).

The baghouses serve to collect and reduce particulate emissions associated with the housing of particulate products at the facility. The monitoring of visible emissions ensures that particulate emissions are being controlled. A visible emissions check is performed and the results are recorded once daily.

VI. Applicability and Exemptions of Selected Subject Items

ID No:	Requirement	Notes
EQT 32	40 CFR 63 Subpart S – NESHAP for Pulp and Paper Industry [40 CFR 63.440]	EXEMPT. Bleaching system does not use any chlorine or chlorinated compounds. [40 CFR 63.445(a)]
EQTs 45-53, 65, 66, 83-85, & ARE 6	Emission Standards for Particulate Matter [LAC 33:III.1301.B]	DOES NOT APPLY. Facility is in the wood pulping industry. [LAC 33:III.1301.B]
EQTs 45-47, 53, 65, 66, & 83-85	Emission Standards for Sulfur Dioxide [LAC 33:III.1503]	EXEMPT. Units emit less than 250 tons of SO_2 per year. [LAC 33:III.1513.A]
EQT 53	40 CFR 60 Subpart BB – Standards of Performance for Kraft Pulp Mills [40 CFR 60.280]	DOES NOT APPLY. No pollutant increases proposed for any pollutant to which a standard applies. [40 CFR 60.280(b)]
EQTs 83-85	Comprehensive Toxic Air Pollutant Emission Control Program [LAC 33:III.Chapter 51]	EXEMPT. Emissions from the combustion of Group 1 virgin fossil fuels are exempt. [LAC 33:III.5105.B.3.a]
EQTs 4, 17-21, 65, 66, & 86	Compliance Assurance Monitoring [40 CFR 64]	EXEMPT. Sources comply with a limitation or standard proposed by the Administrator after November 15, 1990. [40 CFR 64.2(b)(1)(i)]

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VII. Streamlined Requirements

Unit or Plant Site	Programs Being Streamlined	Stream Applicability	Overall Most Stringent Program
St. Francisville Mill	None	-	-

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VIII. Glossary

Best Available Control Technologies (BACT) - An emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this part which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

Carbon Monoxide (CO) – A colorless, odorless gas which is an oxide of carbon.

Grandfathered Status- Those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

Hydrogen Sulfide - A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the action of acids on metallic sulfides, and is an important chemical reagent.

Maximum Achievable Control Technology (MACT) - The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

New Source Review (NSR) - A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_x) - Compounds whose molecules consists of nitrogen and oxygen.

Nonattainment New Source Review (NNSR) - A New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. Nonattainment NSR is designed to

ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

Organic Compound - Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit- Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: $\geq$ 10 tons per year of any toxic air pollutant; $\geq$ 25 tons of total toxic air pollutants; and $\geq$ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10}- Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) - The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO_2) – An oxide of sulphur.

Title V permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) - Any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.